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A program was introduced in 1965 to provide individualized physical education for students in grades 1 through 12 who could not participate in regular physical education programs. Twenty-one schools and 1,640 students with a variety of conditions participated. The most frequent limitations of participants were low physical fitness, overweight, and curvature of the spine. Pupils attended an average of two 45-minute classes a week where they engaged in regular physical education activities adapted to their specific needs. Measurement of program effectiveness revealed that although the number of schools having the program increased, the number of students served decreased, and there was no difference in improvement of students with low physical fitness related to whether they had one, two, or five classes per week. Instructors estimated that 30% of participants reached maximum improvement, 44% showed moderate improvement, 17% minimal improvement, and 9% no improvement. Of the students, 16% were returned to regular physical education classes. Administrative considerations are included. (LE)

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ADAPTED PHYSICAL EDUCATION PROGRAM
1968 REPORT

Office of Research

Pittsburgh Public Schools
Bernard J. McCormick, Superintendent

EC 003 402

1. ADAPTED PHYSICAL EDUCATION PROGRAM

Summary

The Adapted Physical Education Program was introduced in the Pittsburgh Public Schools in September 1965. The program aims to provide individualized physical education for students who are unable to participate in the regular physical education program due to illness or disability.

In an attempt to measure the effectiveness of the Adapted Physical Education Program, three questions were asked: (1) How many students are served by the program? (2) What progress are students making? and (3) What is the rate of improvement of students with low physical fitness?

It was discovered that although the number of schools having the program increased, the total number of students served decreased. Based on data collected from program instructors' ratings of their students, it was shown that 22 percent of the participants had reached maximum improvement. Of the students sampled with low physical fitness, it was found that there was no difference in improvement of students having one, two, and five classes per week.

Introduction

History of the Program

The basic philosophy of the Adapted Physical Education Program is that every child attending school should be given the opportunity to participate in varied and wholesome physical education activities. For those children who are unable to participate in regular physical education classes because of illness or disability, this program aims to provide individualized physical education activities tailored to match their physical capacity.

The necessity for a program of this type has long been recognized by the Commonwealth of Pennsylvania. The Adapted Physical Education Program in the Pittsburgh Public Schools started in September 1965 as a pilot program for girls at Westinghouse High School. The pilot program showed the necessity of expansion. This was accomplished using Title I ESEA funds to include 20 qualifying schools and a staff of 10 specially trained teachers on March 31, 1966. Only five teachers, however, were found to fill the opening positions. For a period of six weeks, these teachers received specialized training at the University of Pittsburgh. They were then placed in five schools.

During July and August of 1966, seven additional teachers and a supervisor, newly hired for the program, were given specialized training at the University of Pittsburgh summer workshop. In September

of 1966, after the loss of two members of the original staff, 10 teachers were placed on a shared time basis in Pittsburgh Public Schools. By April of 1967, a total of 6,875 students had been screened of whom 1,560, or 24 percent were selected to participate in the program. (In the two parochial schools served by the program 469 children were screened and 80 selected.)

At the end of the 1966-1967 school year, seven new adapted physical education teachers were needed to replace the one teacher who retired and the six others who resigned to accept positions outside the Pittsburgh Public Schools. In August a three-day workshop was planned by the Section on Physical and Health Education of the Pittsburgh Public Schools to acquaint all staff members with the organization and direction of the program.

The Adapted Physical Education Program has been evaluated by the Office of Research since its inception in 1965. The evaluation of the first year's program pointed out the need for a systematic method of recording necessary data on participants. It also suggested the development of clear and uniform criteria for admission into the program. The evaluation of the 1966-1967 program indicated a substantial degree of progress in the program. Effective steps had been taken to establish data collection procedures to provide the program with one of the basic tools of self-evaluation.

The evaluation also reiterated a number of problems which had

hampered the program from its introduction. The most serious of these is the high turnover rate of teachers because of the temporary nature of their jobs. A second problem is the need for an orthopedic consultant to examine orthopedic cases and to recommend necessary courses of action. Finally, female aides are needed to assist male teachers in implementing required physical education activities for girls. The reluctance of male teachers to instruct girls without aides has resulted in a very low percentage of girls in the program (only 16 percent).

Description of the Program

All male students in participating schools are screened to determine whether they have physical disabilities and/or defects which require individual attention. Additional referrals are made by regular physical education teachers, school nurses, and physicians. Students in two different categories are accepted and served by the program:

1. Remedial-- Students who are not able to participate fully in regular physical education programs because of low physical fitness or poor body mechanics

2. Modified-- Students who are limited by chronic health and/or physical conditions, or are recovering from acute or postoperative conditions

Students in the Remedial group are instructed in activities, principally exercises, which will restore normal strength and development to affected parts of the body. An individualized program is established for the student after he has been screened and the findings confirmed

by his physical. The remedial aspect of the program aims to correct or improve the following and similar conditions: abdominal ptosis, foot disorders, kyphosis, lordosis, low fitness, muscular weakness, overweight, poor body alignment, poor coordination, scoliosis, social maladjustment, and underweight.

The modified aspect of the program emphasizes the use of regular physical education methods and activities adapted to the specific needs of the student, either by restriction or modification of equipment or activity. Based on the results of the medical and physical examination of the student, the modified phase is an individualized program implemented only on consent of the child's attending physician. Children involved in the modified program present a variety of conditions: anemia, arrested tuberculosis, athrocytosis, asthma, cardiac, cerebral palsy, diabetes, epilepsy, hemophilia, hypertension, joint injuries, leg defects, leukemia, morphosis, muscular dystrophy, nephritis, Osgood Schlatters, osteomyelitis, partial sight, polio, postoperative, postpartum, pregnancy, rheumatoid arthritis, rheumatic heart, skin disorders, and spina bifida.

Program participants attend an average of two 45-minute classes per week. Students in the Adapted Physical Education Program receive twice the amount of instructional time received by students in the regular physical education class (since limited numbers were served in the adapted physical education class). Students remain in the program for

varying periods of time, depending upon their condition and their progress. Table 1 presents the prevalence of the different physical limitations of participating students during the 1967-1968 school year. The limitations are arranged in order of descending frequency.

TABLE 1

Limiting Conditions of Participants in the 1967-1968 Adapted Physical Education Program

Limitation	%	Limitation	%
Low Physical Fitness	24	Cardiac Conditions	2.5
Overweight	16	Cerebral Palsy	2.5
Lordosis	13	Asthmatics	1.7
Kyphosis	9	Postoperative	1.4
Poor Coordination and Skills	6	Muscular Dystrophy	1.0
Scoliosis	5	Postpartum	1.0
Socially Maladjusted	6	Partial Sight	1.0
Underweight	5	Other Conditions*	4.9

*Other conditions include: spina bifida, rheumatoid arthritis, pregnancy, hypertension, osteomyelitis, Osgood Schlatters, etc.

Table 1 indicates that the most frequent limitations of participants in the Adapted Physical Education Program were low physical fitness, overweight, and lordosis. A fuller description of the program appears in the definition in Appendix A.

Evaluation of the Program

Method

In an attempt to measure the effect of the Adapted Physical Education Program, the number of students enrolled was compared with comparable figures for the previous year. A data collection instrument was also developed and instructors were asked to rate their students' progress on it. A further measure of the program's effectiveness was sought by selecting a random sample of pupils with low physical fitness (as shown in Table 1 this condition accounts for more participants than any other) and examining them for change in condition across age groups and number of classes per week. This was expected to provide a rough measure of exposure to the program.

Findings

It was discovered that although the program has been extended to a greater number of schools, the total number of students served by the program has decreased. Based on data collected from the program instructors' ratings of their students, it was shown that 22 percent of the participants had reached maximum improvement. Of the students sampled with low physical fitness, it was found that there was no difference in improvement of students having one, two, and five classes per week. A more detailed description of the findings follows.

During the 1967-1968 school year, for the first time the program

covered a number of parochial schools. In addition, the program was extended to 18 public schools as compared to 15 the previous year. In spite of this extension of the program, the number of students enrolled was 1.6 percent less during the 1967-1968 school year than the preceding year. The number of students screened who were enrolled was less by 5.6 percent in parochial schools than in public schools.

Based on the data collected from the program instructors' ratings of their students, 30 percent of the participants reached maximum improvement, 16 percent were returned to the regular physical education program. Forty-four percent of the students showed moderate improvement, 17 percent showed minimal improvement, and nine percent showed no improvement. The majority of the latter category were students with crippling conditions or those who were severely maladjusted. (See Appendix B for the form used by instructors to rate their students.)

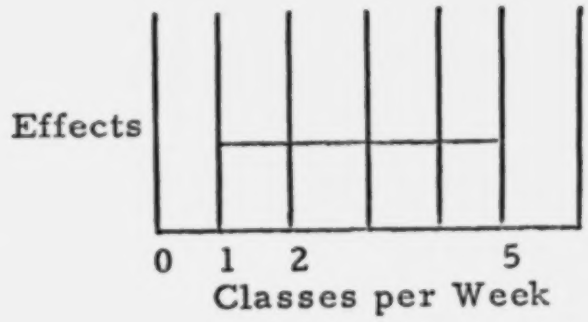
From the total group of 270 students classified as having low physical fitness, six subgroups were drawn of students enrolled in one class of adapted physical education per week, two classes, and five classes. Two groups were selected for each amount of classtime.

In these six groups the percentages of students with significant improvement were 27, 34, 47, and 50 percent for four groups of one and two groups of five classes per week. These values were derived from the ratings of the adapted physical education teachers. They show that the percentage of students exhibiting significant improvement is

not related to the number of classes per week for $p > 10$. These findings would seem to indicate that variance in amount of treatment has no appreciable effect on the percentage of students showing significant improvement. The lack of significant effect might be attributed to the serious problems of staff turnover and a lack of criteria for selection of entering students discovered in prior evaluations.

Discussion and Conclusions

The conclusions that can be drawn from these data are fairly straight-forward. If we plot the findings about effects of increasing the number of classes per week, we find:



This would strongly suggest that the program, at least for the group of children classified as having low physical fitness, could as well be held one day a week, thus freeing the therapist for other activities.

More interesting, however, is the speculation that the extrapolation of the effects curve in the diagram leftward would provide the same effects with no program whatsoever. The natural level of improvement might be identical with the level achieved by the program. This is well in keeping with the findings of educational research as noted, for

example, in the Wall Street Journal (July 8, 1968) p. 10:

> With regard to the Adapted Physical Education Program, these unhappy findings can be attributed, in part, to the poor definition of objectives, as was noted in the lack of criteria for entering students, and a lack of experienced teachers, due to the high turnover rate. The former defect is a function of poor program design; the latter a cause of poor (or nonexistent) implementation.

APPENDICES

APPENDIX A

Adapted Physical Education Program Definition

GENERAL

I. Overall Statement of Objectives and Rationale for the Program

The Adapted Physical Education Program is designed to provide pupils who cannot participate in or benefit from a regular physical education program with an opportunity to participate in physical activities within their limitations. The activities of the program are either modified or remedial.

II. Description of Scope

A. Number of Schools Involved

The program was implemented in 19 of the Pittsburgh Public Schools and two of the parochial schools. Of the public schools, two were senior high, three were junior high, 11 were elementary, and three were vocational schools.

B. Grades or Ages of Participants

Participants represent grades 1 through 12, with a number of special education students.

C. Total Number of Pupils Involved

The number of participants totals 1,560 in the public schools and 80 in the parochial schools.

D. General Description of Staff

The staff consists of the Associate Director for Instruction, Physical and Health Education; the Supervisor; and eight Adapted Physical Education teachers.

OUTCOMES

I. Major Objectives--changes expected to occur in program participants as a result of the program. There are two types of major objectives.

A. Terminal Objectives--behaviors exhibited by participants at the end of the program which demonstrate successful completion of the program.

To terminate his participation in the Adapted Physical Education Program, the student should demonstrate a level of performance that will permit him to rejoin regular physical education classes.

There are separate terminal objectives for each of the two parts of the program:

1. As a result of the remedial program, the student should demonstrate an improved physical condition and correction or improvement of remedial defects.

2. As a result of the modified program, the student should be able to perform physical activities within his limitations.

B. Ultimate Objectives--the long-range goals of the program. These are objectives to which the program hopefully contributes, but for which it does not have sole responsibility.

As a result of the Adapted Physical Education Program, the student will demonstrate improved morale.

II. Enabling Objectives--the skills, attitudes, and information which students must acquire during the program to ensure the accomplishment of the major objectives

A. The student develops an understanding of his handicap and what he can accomplish within his physical limitations.

B. The student cooperates in program activities.

C. The student develops personal and social efficiency through counseling.

D. The student develops recreational skills and knowledge within his physical limitations.

E. The student improves body mechanics and corrects or improves remedial defects.

F. The student's general physical efficiency improves.

III. Other Benefits--benefits expected to accrue to other than program participants as a result of the program

Because the student realizes his limitations and is learning to adapt within them, he can become a useful member of society. He need not be a burden to his family or community.

IV. Criteria for Successful Completion of or Removal from the Program

A. Students with weak muscles leave the program when they show improvement to the extent that they can participate successfully and safely in regular physical education activities.

B. Students with postural deviations remain in the program until the condition has been corrected or improved sufficiently to allow them to participate successfully and safely in regular physical education activities.

C. Some students remain in the program for medical reasons.

ANTECEDENTS

I. Participants

A. Selection Characteristics--the criteria that are used to determine who shall participate in the program

Students who are unable to fully participate in the regular physical education program because of a temporary or permanent disability are selected for the Adapted Physical Education Program.

Selection is mainly carried out by the regular and adapted physical education teachers, school or private physicians, and the school nurses. Guidance counselors, classroom teachers, and principals may also participate in the selection process.

B. Entering Behaviors--characteristics of participants (other than selection characteristics) which are related to performance in the program

The physically disabled participants of the Adapted Physical Education Program may also exhibit emotional disability.

II. Staff--qualifications with respect to specific positions

Staff Member	Professional Qualifications	Personal Qualifications
Associate Director of Instruction, Physical and Health Education	A Master's degree in adapted physical education	
Supervisor	A Master's degree in adapted physical education	
Adapted Physical Education Teacher	1. A Bachelor's degree in physical education 2. Special training in adapted physical education	

III. Support

A. Administrative Support--administrative personnel who cooperate in carrying out the program

The school principal provides space for a special gym and arranges pupils' schedules.

B. Human Resources--non-administrative and non-staff personnel whose contributions and cooperation are necessary to the operation of the program

1. Private and school physicians

2. School nurses

3. Guidance counselors

4. Classroom teachers

5. Parents

C. Media--the materials, supplies, and equipment required for program activities

1. Weights

2. Pulleys

3. Stallbars

4. Exercycles

5. Mats

6. Postural mirrors

D. Facilities

A separate gym or additional space is required for the Adapted Physical Education Program.

IV. Time Constraints

A. The length of time spent in the program varies with the individual.

B. Classes meet two or three times a week.

PROCESS

I. Participant Activities--the day-to-day program activities that will ultimately lead to the achievement of objectives

The activities of the Adapted Physical Education Program depend to a large extent on the nature of the physical disabilities of the participants. The following is a general description of these activities:

A. Class time is generally divided into two types of activity:

1. Students participate in modified physical activity, including the development of recreational skills and playing of games, on an individual or a group basis.

2. Individual muscular, physical fitness, coordination, motion, and postural screening tests are supervised by the instructor.

B. Specified physical activities are performed at home by the participants.

II. Staff Functions and Activities

A. Staff Functions and Duties with Respect to Specific Positions

Staff Members	Functions	Duties
Associate Director of Instruction, Physical and Health Education	Administration of program	Plans the program with the program supervisor
Program Supervisor	Supervision of activities and progress of teachers	a. Provides teachers with necessary materials and equipment b. Participates in workshops c. Makes frequent visits to participating schools
Adapted Physical Education Teacher	Implementation of treatment	a. Helps select participants for the program b. Specifies and administers exercises and games to participants

Staff Members	Functions	Duties
Adapted Physical Education Teacher (contd.)	Implementation of treatment	c. Keeps records on each participant, including information on the nature of the limitation and the nature and duration of treatment d. Evaluates progress of participants and determines readiness for change to regular program e. Informs parents of needs of child and exercises to be done at home under their supervision

B. Intra-staff Communication and Coordination

No information was given on intra-staff communication and coordination.

C. Communication Between Program Staff and Others

No information was given on communication between program staff and others.

APPENDIX B

Adapted Physical Education Program

Basic Data*

School_____ Grade_____ Class Room_____

Student's Name Last First	Age	Sex (1)	Race (2)	Physical Disability (3)	Date Enrolled	Date Released	No. of Classes per Week	No. of Classes Missed	Improvement of Student's Disability (4)

(1)
Male = M Female = F

(2)
White = W Negro = N

(3)
Scoliosis = S
Kyphosis = K
Low Physical Fitness = P
Lordosis = L
Overweight = O

(4)
Maximum Improvement = 1
Moderate Improvement = 2
Minimal Improvement = 3
No Improvement = 0

* Information should be recorded only for students who have been enrolled in the program for <u>at least two semesters</u>.